

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SHAW POND	Lake Area (ha):	0.65
Town: FRANKLIN	Maximum depth (m):	8.4
County: Merrimack	Mean depth (m):	3.7
River Basin: Merrimack	Volume (m <sup>3</sup> ):	24000
Latitude: 43°26'11" N	Relative depth:	9.3
Longitude: 71°41'31" W	Shore configuration:	1.12
Elevation (ft): 770	Areal water load (m/yr):	20.07
Shore length (m): 320	Flushing rate (yr <sup>-1</sup> ):	5.40
Watershed area (ha): 28.5	P retention coeff.:	0.48
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

		8 January 1996	11 September 1995
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 50%	MALLOMONAS 55%
	#2	(ALL ALGAE SPARSE)	ANACYSTIS 15%
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			23.02
DOM. ZOOPLANKTON (% TOTAL)	#1	LRG SOLI PERITRICH 64%	KERATELLA 35%
	#2	KERATELLA 27%	KELLICOTTIA 25%
	#3		
ROTIFERS/LITER		37	271
MICROCRUSTACEA/LITER		7	29
ZOOPLANKTON ABUNDANCE (#/L)		121	340
VASCULAR PLANT ABUNDANCE			Scat/Common
SECCHI DISK TRANSPARENCY (m)			2.0
BOTTOM DISSOLVED OXYGEN (mg/L)		0.9	0.5
BACTERIA (E. coli, #/100 ml)	#1		1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	3.7
Hypolimnion volume (m <sup>3</sup> ):	2250
Anoxic volume (m <sup>3</sup> ):	8500

**CHEMICAL:**

Lake: SHAW POND

Town: FRANKLIN

	8 January 1996		11 September 1995		
DEPTH (m)	2.0	5.0	1.0	4.0	7.0
pH (units)	5.5	5.7	6.1	5.7	6.1
A.N.C. (Alkalinity)	2.6	2.8	4.5	3.1	9.9
NITRATE NITROGEN	< 0.10	< 0.10	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.30	0.41	0.33	0.43	1.21
TOTAL PHOSPHORUS	0.007	0.014	0.018	0.031	0.058
CONDUCTIVITY ( $\mu\text{mhos/cm}$ )	22.3	20.8	16.2	18.3	26.3
APPARENT COLOR (cpu)	40	48	55	55	120
MAGNESIUM			0.54		
CALCIUM			0.9		
SODIUM			0.9		
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	3	3	2		1
TN : TP	43	29	18		21
CALCITE SATURATION INDEX			4.6		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1995**

D.O. S.D. PLANT CHL TOTAL CLASS

4	4	2	4	14	Eutro.
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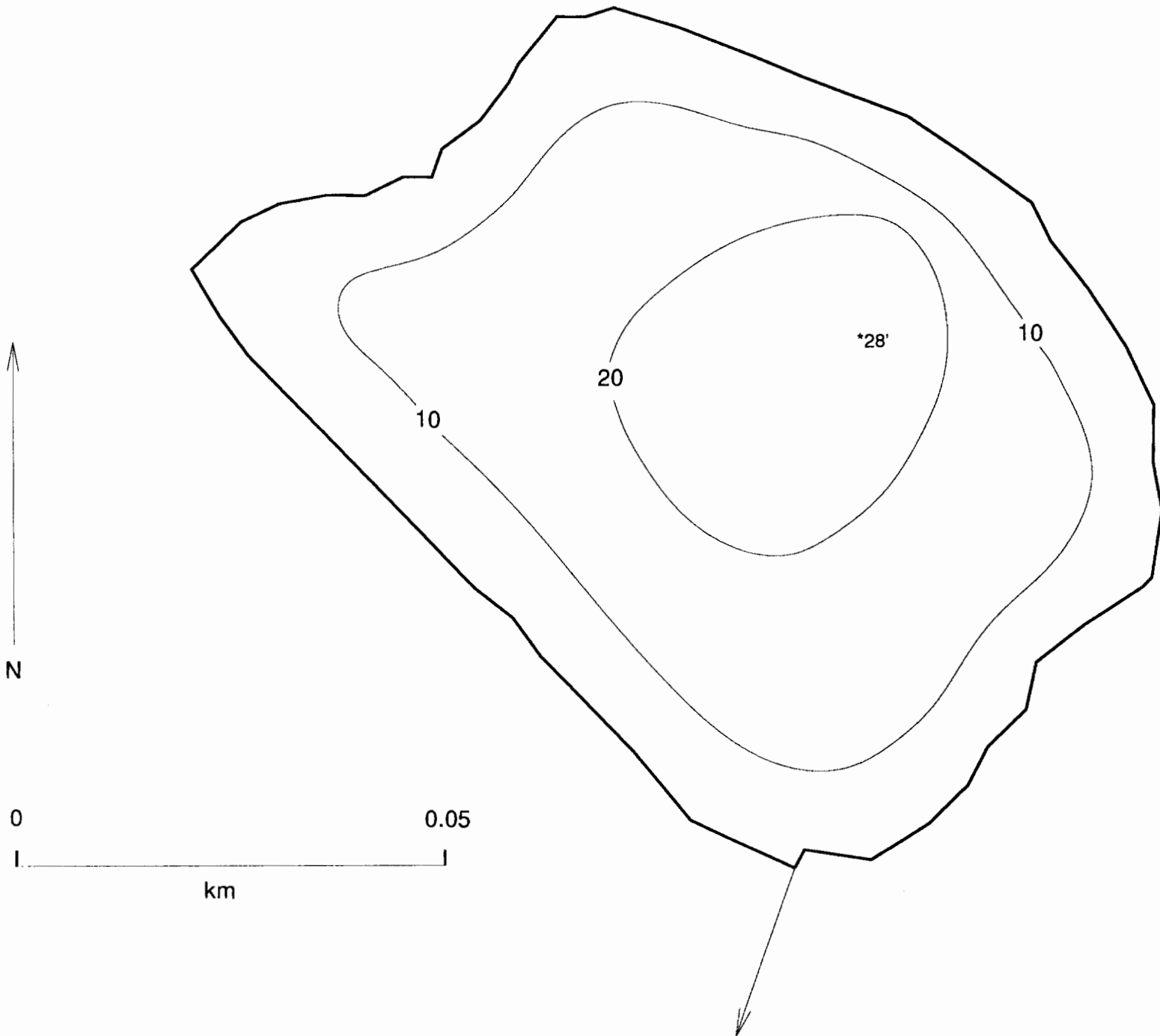
**COMMENTS:**

1. This is a very small (less than 2 acres) but relatively deep (28 feet) and somewhat remote pond surveyed cooperatively with the Fish and Game Department.
2. Access to the pond was by a 4-wheel drive road in very poor condition.
3. It is a tea-colored, somewhat acidic, eutrophic pond, with high chlorophyll, poor water clarity and no dissolved oxygen below 3 meters. Interestingly, the net phytoplankton community was relatively sparse; the high chlorophyll was apparently the result of an abundant nannoplankton community.

# Shaw Pond

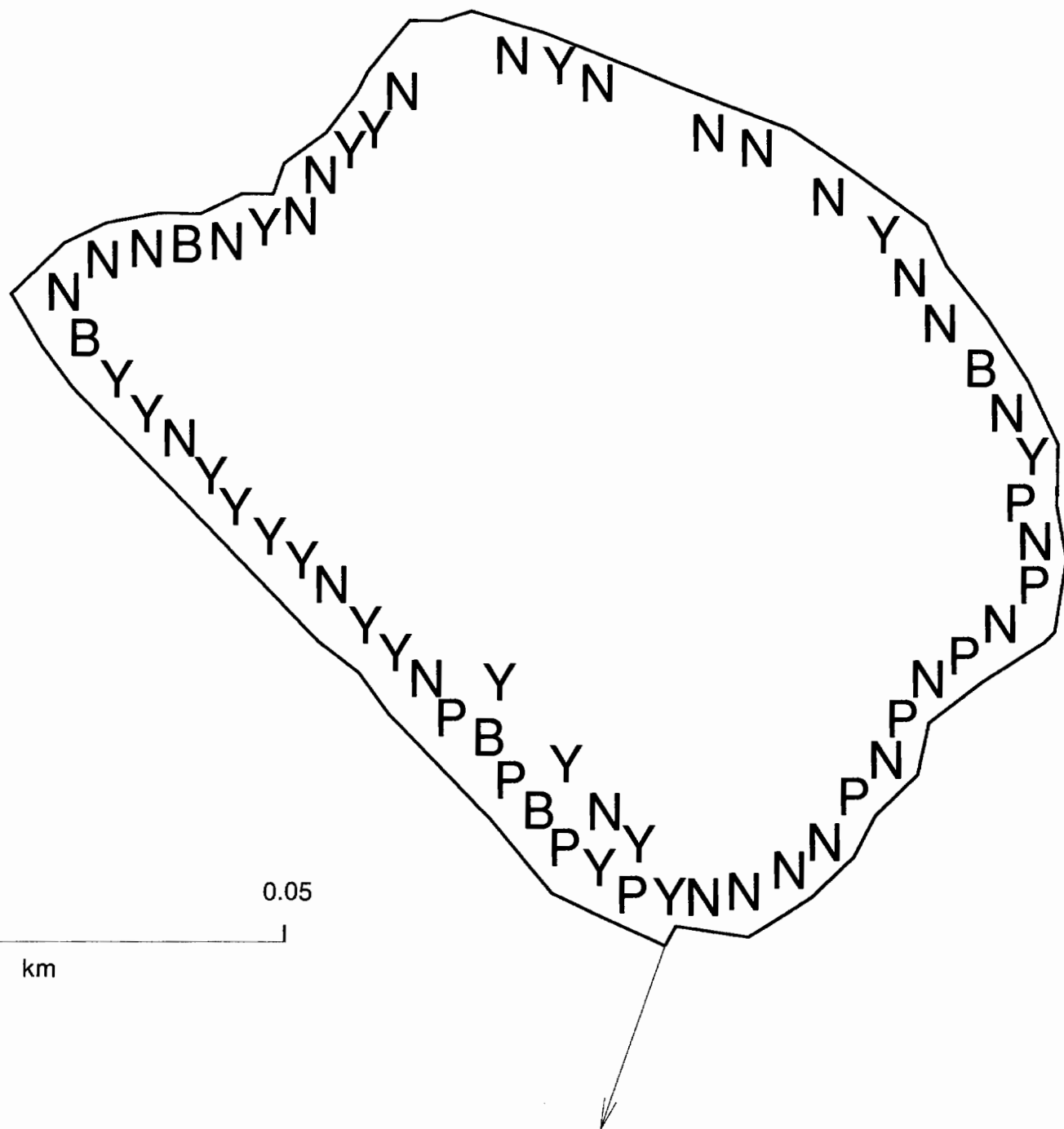
## Franklin

10 foot depth contours



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# Franklin



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